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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,852	07/23/2001	Yasushi Kaneko	01165.0823	1187

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EXAMINER	
NGO, HUYEN LE	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/889,852	KANEKO ET AL.	
	Examiner	Art Unit	
	Julie-Huyen L. Ngo	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2 and 4-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4, 5, 6/4, 7/4, 9/4 and 10/4* is/are allowed.

6)☒ Claim(s) *2, 6/2, 7/2, 8, 9/2 and 10/2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/12&7/12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 7/12/04 has been entered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features regarding the reflective layer formed as *a transflective layer, and the backlight* recited in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the

brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claim 8 contains subject matter, i.e., "***the reflective layer is formed as a transflective layer***," which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

> would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 6/2, 9/2 and 10/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shingo et al. (JP11119215) in view of Ogawa et al. (US6122027A) and Sato et al. (EP000949515A2) provided by applicants' IDS.

Shingo et al. teach (figure 1) forming a liquid crystal display comprising:

Claims 2 and 10/2:

- a first substrate 19 having a reflective layer and a first electrode; both a reflective layer and a first electrode integrates into the reflecting electrode 18,
- a second substrate 14 having a second electrode
- a nematic liquid crystal material with twisted orientation sandwiched between the first and second substrates
- an optical compensating element 12 constructed of a retardation film is provided on the second substrate side (claim 10)

wherein

- the liquid crystal display includes an anisotropic scattering layer 10a/10b which is provided nearer to a viewing side than to the reflective layer, and of which the straight-go transmittance varies depending on the incident angle,
- when the viewing direction of the anisotropic scattering layer is designated as the Y-axis direction, and a direction oriented

substantially at right angles to the Y-axis direction is designated as the X-axis direction,

- the anisotropic scattering light is provided with a part in which light entering the anisotropic scattering layer is scattered over a wider angle along the Y-axis direction than along the X-axis direction.

Claim 6/2:

- a scattering layer (double refraction film 12) is provided in addition to the anisotropic scattering layer.

Claim 9/2:

- a color filter 15 consisting of colors (the RGB of a microcolor filter) is provided on second substrate.

However, Shingo et al. fail to disclose:

- the first substrate 19 having a reflective layer and a first electrode formed separately,
- a straight-go transmittance of an anisotropic scattering layer having an incident angle dependence that is symmetrical about a layer normal to the anisotropic scattering layer for both the X-axis direction and the Y-axis direction, a maximum straight-go transmittance is substantially the same in value for both the X-axis direction and the Y axis direction (claim 2);

Ogawa et al. teach (Fig. 1, col. 2 lines 47-50) forming a first substrate 101 having a reflective layer 102 and a first electrode 105 formed separately for increasing brightness and reducing parallax reflection.

Sato et al. teach (Figs. 2-4 and 10) forming a liquid crystal display with a straight-go transmittance of an anisotropic scattering layer 1-1 has an incident angle dependence (from -60^0 to 60^0) that is symmetrical about a layer normal to the anisotropic scattering layer for both the X-axis direction and the Y-axis direction (on surface of the anisotropic scattering layer as Fig. 3 shown), a maximum straight-go transmittance is substantially the same in value for both the X-axis direction and the Y axis direction (the scattered light beams assume an elliptical shape as Fig. 4B shown) for realizing a large viewing angle, improving a brightness and displaying a clear image (col. 2 , paragraphs 11-12).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display as Shingo et al. disclosed with (a) the first substrate having a reflective layer and a first electrode forming separately for increasing brightness and reducing parallax reflection as taught by Ogawa et al.; (b) a straight-go transmittance of an anisotropic scattering layer has an incident angle dependence that is symmetrical about a layer normal to the anisotropic scattering layer for both the X-axis direction and the Y-axis direction, a maximum straight-go transmittance is substantially the same in value for both the X-axis direction and the Y axis direction for realizing a large viewing angle, improving a brightness and displaying a clear image as taught by Sato et al. (col. 2 , paragraphs 11-12).

Claim 7/2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shingo et al. (JP11119215) in view of Ogawa et al. (US6122027A) and Sato et al. (EP000949515A2) provided by applicants' IDS as applied to claims 2, 6/2 and 10/2 above and further obvious as follow:

It is well known in the art for a liquid crystal display to use super-twisted nematic liquid crystal material, which has a twist angle that lies within a range covering 180° to 260° for widening view angle.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display as Shingo et al. disclosed with a super-twisted nematic liquid crystal material having a twist angle that lies within a range covering 180° to 260° for widening view angle.

Allowable Subject Matter

Claims 4, 5/4, 6/4, 7/4, 9/4 and 10/4 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 4 would be allowable since there is no prior art of record that either teaches or suggests a liquid crystal display comprising:

a straight-go transmittance of an anisotropic scattering layer has an incident angle dependence that is asymmetrical along the X-axis direction about a layer normal to the anisotropic scattering layer and symmetrical along the

Y-axis direction, and a straight-go transmittance of the anisotropic scattering layer in the direction of the layer normal is lower than the straight-go transmittance thereof in any oblique direction.

Claims 5/4, 6/4, 7/4, 9/4 and 10/4 are allowable since it depends on the allowed claim 4.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (571) 272-2295. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (571) 272-2293.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.

September 1, 2004

Julie -Huyen L. Ngo
Primary Examiner
Art Unit 2871